

*Kotley - please call Sanderson
see if they need
this right away*

MISSOURI DEPARTMENT OF NATURAL RESOURCES

1. *11/11*
2. *CWS*
3. *ARW*
CC: ARW
6/21
CC *SPED*
1-13-82

In the Matter of:

Litton Systems, Incorporated
Advanced Circuitry Division
4811 West Kearney
P.O. Box 2847
Springfield, MO 65803

Proceeding Under Missouri Law,
Hazardous Waste Management Law
Section 260.410, RSMo.

Order No. HW-82-002

Certified Mail No. P215289086

Site:	<u>LITTON</u>
ID#:	<u>MOD007152903</u>
Break:	<u>10-3</u>
Other:	<u>6-21-82</u>

NOTICE OF ORDER

TO: Mr. Ron Enos, President
Litton Systems, Incorporated
Advanced Circuitry Division
4811 West Kearney
P. O. Box 2847
Springfield, MO 65803

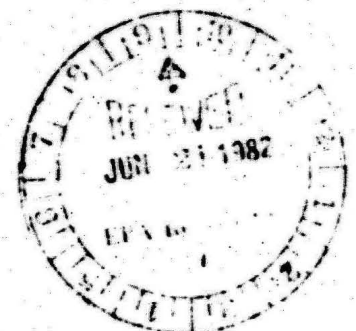
EPA-ARHM/HAZM
JUN 21 1982
Region VII K.C., MO

Pursuant to Section 260.410, RSMo., you are hereby notified that the Missouri Department of Natural Resources has issued against you on this date, the attached Order to Properly Close "Pond A". This Order is a follow-up to the Order to Cease and Eliminate Imminent Hazard, issued on March 18, 1982 under the authority of 260.420, RSMo. You are hereby notified that the Emergency Directive date, March 26, 1982, has expired and no additional wastewater may be spray irrigated.

Compliance with this Order should not be construed to preclude or limit the Department of Natural Resources' remedies under Section 260.350 through 260.430, RSMo., the Hazardous Waste Management Law.

EPA-ARHM/HAZM

Region VII K.C., MO



The Order may be appealed to the Missouri Hazardous Waste Management Commission, as provided by 260.410, RSMo., by filing a petition with said Commission within thirty (30) days from the date of this Order.

DEPARTMENT OF NATURAL RESOURCES

ORIGINAL SIGNED BY

FRED A. LAFSER

Fred A. Lafser
Director

Dated this 17 day of June, 1982

FAL:agp

cc: Mr. Robert Schreiber, Director, Division of Environmental Quality
Mrs. Treva Hearne, Counsel for DEQ
Mr. Ed Downey, Attorney General's Office
Mr. John J. Franke, Regional Administrator, EPA, Region VII
Waste Management Program
Springfield Regional Office

MISSOURI DEPARTMENT OF NATURAL RESOURCES

In the Matter of:

Litton Systems, Incorporated
Advanced Circuitry Division
4811 West Kearney
P. O. Box 2847
Springfield, MO 65803

Order No. HW-82-002

Certified Mail No. P215289086

Proceeding Under the Missouri
Hazardous Waste Management Law,
Section 260.410, RSMo.

ORDER TO PROPERLY CLOSE POND A

Pursuant to Section 260.410, RSMo., and in follow-up to the previous Order to Cease and Correct Imminent Hazard issued on March 18, 1982 under the authority of Section 260.420, RSMo., and Emergency Directives issued under 10 CSR 25-7.011(2)(F), the Department of Natural Resources hereby makes the following Findings of Fact.

The percolation lagoon used to hold wastewater and sludge from the electroplating operation is located on the property of Litton Advanced Circuitry, and is hereinafter referred to as "Pond A".

FINDINGS OF FACT

1. On or about March 17, 1982, a representative from the Department of Natural Resources observed a sinkhole 7½ feet by 8½ feet, located 27 feet east of "Pond A". Furthermore, there was considerable seepage of wastewater through the dikes of "Pond A" at that time.
2. On or about March 18, 1982, geologists from the Division of Geology and Land Survey, Department of Natural Resources, after inspecting "Pond A", reported extensive concern regarding the possible failure of the "Pond A" dikes and the possibility of further sinkhole development in and around "Pond A" -- all of which presented an imminent hazard to the environment and the health of humans. The Department of Natural Resources, therefore, issued an Order to Litton ACD to Cease and Correct Imminent Hazard. A copy is attached hereto and marked "Exhibit 1".

3. On or about March 19, 1982, the Division of Environmental Quality, of the Department of Natural Resources, issued an Emergency Directive under 10 CSR 25-7.011(2)(F), a copy of which is attached as "Exhibit 2", to Litton ACD authorizing the spray irrigation of water from "Pond A" in order to reduce the water level in "Pond A" and thereby reduce the possibility of a catastrophic failure of the "Pond A" earthen containment structure.
4. On or about March 26, 1982, the Division of Environmental Quality, of the Department of Natural Resources, issued a revised Emergency Directive under 10 CSR 25-7.011(2)(F), a copy of which is attached as "Exhibit 3", stating the hazard which would result if a new sinkhole collapse occurred within the "Pond A" dikes, in which event contaminated soil and sludge would be released into the subsurface waters. A closure plan for "Pond A" was therefore required to be submitted to the Department of Natural Resources by April 15, 1982.
5. On or about April 13, 1982, Litton ACD submitted a revised closure plan to Mr. John Franke, Regional Administrator of the U.S. Environmental Protection Agency, Region VII, with a copy sent to the Waste Management Program of the Department of Natural Resources.

WHEREFORE, PURSUANT TO SECTION 260.410, RSMo., IT IS HEREBY ORDERED:

Litton Systems, Incorporated, Advanced Circuitry Division shall, within the time limits specified, take the following action:

1. In the event Litton ACD is taking the position that the sludge from "Pond A" can be excluded from regulation pursuant to 10 CSR 25-4.010(7), a formal petition to the effect must be submitted to the Waste Management Program, of the Department of Natural Resources, by June 25, 1982. By this same date, Litton ACD must submit to EPA Headquarters a petition to exclude the sludge from "Pond A", according to 40 CFR 260.20 and 260.22.

2. Submit to the Waste Management Program of the Department of Natural Resources by July 2, 1982, a list detailing the parties who will transport or otherwise handle the disposal and/or resource recovery of the sludge from "Pond A" both in accordance with Section 260.380.1(7), RSMo., as a hazardous waste and in accordance with Section 260.225, RSMo. and 10 CSR 80-3.010(3)(A), as a non-hazardous special industrial waste.
3. Submit to the Waste Management Program of the Department of Natural Resources by July 2, 1982 a revised closure plan with details of the following:
 - A. How removal and dewatering of the sludge from "Pond A" will be accomplished;
 - B. The depth of soil which will be removed from the bottom of "Pond A";
 - C. The total estimated quantity of dewatered sludge to be removed from "Pond A";
 - D. The sampling and analysis to be done on the soil within "Pond A" once the sludge is removed to insure that all contaminated soil is removed; and
 - E. How and where, if necessary, the sludge from "Pond A" will be stored on-site prior to final off-site disposal and/or resource recovery.
(Any on-site storage for over 90 days must be in compliance with 40 CFR 122.23.)
4. Submit to the Waste Management Program of the Department of Natural Resources by July 16, 1982 documentation both confirming and demonstrating that finalized disposal or resource recovery arrangements have been made in accordance with Section 260.380.1(7), RSMo., as a hazardous waste, and in accordance with Section 260.225, RSMo. and 10 CSR 80-3.010(3)(A), as a non-hazardous special industrial waste.

5. Remove all sludge from the bottom of "Pond A" and send written confirmation of such to the Department of Natural Resources by September 15, 1982.

DEPARTMENT OF NATURAL RESOURCES

ORIGINAL SIGNED BY

FRED A. LAFSER

Fred A. Lafser
Director

Dated this 17 day of June, 1982.

FAL:agp

cc: Mr. Robert Schreiber, Director, Division of Environmental Quality
Mrs. Treva Hearne, Counsel for DEQ
Mr. Ed Downey, Attorney General's Office
Mr. John J. Franke, Regional Administrator, EPA, Region VII
Waste Management Program
Springfield Regional Office

EXHIBIT 1
BEFORE THE
DEPARTMENT OF NATURAL RESOURCES
STATE OF MISSOURI

In the MATTER OF

Advanced Circuitry Division)	
Litton Industries Incorporated)	No. 82-001
Springfield, Missouri)	
)	
)	

ORDER TO CEASE AND CORRECT

IMMINENT HAZARD

1. Under the authority of Section 260.420 of the Revised Statutes of Missouri 1980, the Advanced Circuitry Division, Litton Industries Incorporated, its officers, agents, employees and assigns are hereby ordered to cease the hazard created by the condition of their industrial process wastewater lagoon generally and hereinafter referred to as the "A pond", and immediately correct the imminent hazard present in an environmentally safe manner approved by the Department of Natural Resources.

The imminent hazard is created by:

- a. The presence of toxic and hazardous materials in the aforementioned "A pond";
- b. The unstable condition of the "A pond" berms;
- c. The land surface at risk of contact with the escape of the large volume of liquid and sludges contained in the "A pond" is Karst topography, as evidenced by the presence of sinkholes and a recently occurring sinkhole immediately adjacent to the "A pond" berm, and;
- d. The sinkholes cause a direct connection between the land surface aforementioned and the groundwater system of the area which includes caverns and caves, springs and private drinking water supplies.

Be it known that for the reasons of the aforementioned conditions, the Department of Natural Resources declares that the Advanced Circuitry Division, Litton Industries, Inc. has created an imminent hazard which may cause serious

EXHIBIT 1
Environmental harm and hereby orders such hazard to cease immediately.

Ordered this 18th day of March 1982

Fred A. Lafsor

Fred A. Lafsor, Director
Missouri Department of Natural Resources

Copy of the foregoing served by Certified Mail to:

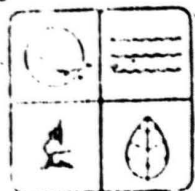
Ron Enos, President
Advanced Circuitry Division
Litton Industries Incorporated
P. O. Box 2347, 4811 W. Kennedy
Springfield, Missouri 65803

on this 18th day of March 1982

cc: Missouri Attorney General's Office
Attention: Ed Downey
Broadway Building
Jefferson City, Missouri 65101

Mr. John Nixon
Springfield Regional Office
1155 East Cherokee Street
Springfield, Missouri

✓ Waste Management Program
Missouri Department of Natural Resources
P. O. Box 176
Jefferson City, Missouri 65102



March 19, 1987

CERTIFIED MAIL P26 0335885

Mr. Ron Enos, President
Advanced Circuitry Division
Litton Industries, Inc.
P. O. Box 2847
4811 West Kerarney
Springfield, Missouri 65803

Dear Mr. Enos:

The Department of Natural Resources is issuing an emergency directive to Advanced Circuitry Division of Litton Industries, hereinafter referred to as "Litton ACD", to dispose of wastewater in an environmentally safe manner from industrial process wastewater lagoon generally and hereinafter referred to as "Pond A". This emergency directive is in conjunction with the "Order to Cease and Correct Imminent Hazard" issued under the authority of Section 260.420, RSMo., 1980. This directive, in accordance with 10 CSR 25-7.011(2)(F), will authorize Litton ACD to take the following actions:

- (1) Litton ACD shall discharge as much wastewater as possible and acceptable to the Springfield city sewer until Pond A is lowered at least three (3) feet.
- (2) As an alternate to paragraph (1) and as may be necessary to achieve desired lagoon level reductions, wastewater from Pond A shall be applied by spray irrigation on ACD property (30 acres more or less available for spray irrigation) at a rate of approximately 1/4 inch per day until Pond A level is lowered at least three (3) feet.
- (3) Wastewater shall not be applied directly to any known sinkholes on the property.
- (4) A final decision on the adequacy of lowering the level of the pond three feet will be made by the Department after that action is completed. The Department may request that additional wastewater be removed from Pond A if it is seen that three feet is not adequate to stabilize the lagoon.
- (5) Litton ACD shall hire its own geotechnical engineer experienced with dam design to evaluate the stability of the lagoon berms and the surrounding topography. Confirmation that this has been accomplished shall be provided to DNR by March 27, 1987.
- (6) Litton ACD shall report to DNR Springfield Regional Office on a daily basis advising DNR of their progress. A log of all actions taken by Litton regarding this project shall be maintained and provided DNR on a weekly basis. The Department can be reached in the event of an emergency at (314)634-2496 (24 hour number).

MISSOURI DEPARTMENT OF NATURAL RESOURCES
PO Box 1263 Jefferson City, Missouri 65102 (314) 751-3241
2010 Missouri Blvd

Christopher S. Bond Governor
Fred A. Lofser Director

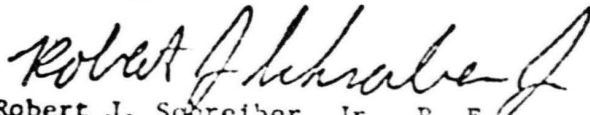
Division of Environmental Quality
Robert J. Scholber Jr., P.E. Director

Mr. Ron Enos
March 19, 1982
Page 2

- (7) Litton shall not take any action not expressly specified in this directive unless prior approval is given by DNR.

This emergency directive will expire on April 4, 1982, unless the Department Director finds it necessary to terminate it sooner in order to protect human health and the environment. This directive does not preclude Litton ACD from complying with other state or federal laws and regulations.

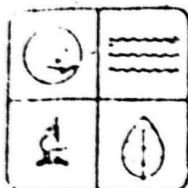
Sincerely,



Robert J. Schreiber, Jr., P. E.
Director
Division of Environmental Quality

RJS/vlw

cc: Ed Downey, Attorney General's Office
U. S. EPA Region VII
Water Pollution Control Program
Springfield Regional Office
Waste Management Program
Laboratory Services Program



March 26, 1982

CERTIFIED MAIL P26 0335887

RECEIVED

MAR 29 1982

Mr. Ron Enos, President
Advanced Circuitry Division, Litton Industries Inc.
P. O. Box 2847, 4811 West Kearney
Springfield, Missouri 65803

Dear Mr. Enos:

SOLID WASTE
MANAGEMENT PROGRAM

The Department of Natural Resources is hereby issuing an emergency directive to Advanced Circuitry Division of Litton Industries, hereinafter referred to as Litton ACD, in accordance with 10 CSR 25-7.011 (2) (F).

This order is effective immediately and replaces the emergency directive dated March 19, 1982.

The Department of Natural Resources is hereby advising Litton ACD that a catastrophic sinkhole collapse at the bottom of Pond A at any time. If this occurs, the total hazardous sludge, would be discharged to the groundwater. To minimize the chances of this hazard Litton ACD is hereby authorized and directed to take the following

- 1) Litton ACD shall discharge as much as possible and acceptable portions are removed from Pond A.
- 2) As an alternate to the Paragraph 1, if necessary to empty the lagoon, wastewater from Pond A shall be applied by spray irrigation on Litton ACD property (50 acres more or less available for spray irrigation) at a rate of approximately one-third inch per day.
- 3) Wastewater shall not be applied directly to any known sinkholes on the property.
- 4) Removal of the liquid portion of the lagoon reduces the danger of a catastrophic collapse of Pond A. However, hazardous sludge and contaminated soil will remain in the lagoon bottom posing a threat to groundwater if a sinkhole should develop in the lagoon bottom. For that reason, Litton ACD is hereby ordered to submit to the Waste Management Program, for approval, a revised closure plan specifically addressing removal of the sludge and contaminated soil. This plan shall include a revised timetable and shall be submitted by April 15, 1982.
- 5) Litton ACD shall report to DNR Springfield Regional Office on a daily basis advising DNR of their progress. A log of all actions taken by Litton regarding this project shall be maintained and provided DNR on a weekly basis.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
P.O. Box 1368 Jefferson City, Missouri 65102 (314) 751-3241
2010 Missouri Blvd.

Christopher S. Bond Governor
Fred A. Lofser Director

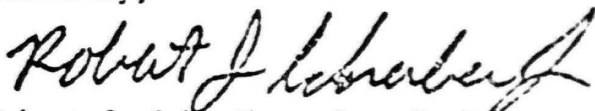
Division of Environmental Quality
Robert J. Schreiber Jr., P.E. Director

Ron Enos
March 26, 1982
Page 2

- 6) Litton shall not take any action not expressly specified in this directive unless prior approval is given by DNR. The Department can be reached in the event of an emergency at (314)634-2436 (24 hour number).

This emergency directive will expire on April 30, 1982 unless the Department of Natural Resources finds it necessary to terminate it sooner in order to protect human health or the environment. This directive does not preclude Litton ACD from complying with other state or federal laws and regulations.

Sincerely,



Robert J. Schreiber, Jr., P. E.
Director
Division of Environmental Quality

RJS/vlw
cc: Ed Downey, Attorney General's Office
U. S. Environmental Protection Agency, Region VII
Water Pollution Control Program
Springfield Regional Office
✓ Waste Management Program
Laboratory Services Program

DATE

MAY 11 1982

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Site: LITTON
ID #: MOD007152903
Break: 10-6
Other: 5-11-82

SUBJECT

Potential Order, Pursuant to Section 3013 of the
Resource Conservation and Recovery Act (RCRA) -
Litton Advanced Circuitry Division, Springfield, Missouri (MOD007152903)

FROM

Michael J. Sanderson
Michael J. Sanderson
Chief, ARWM/AWCM

TO

Robert L. Morby
Chief, ARWM/WMBR

As you are aware, AWCM has sent a referral to CNSL recommending that an Administrative Order, with monetary penalties, be issued to Litton Advanced Circuitry Division, located in Springfield, Missouri. The Missouri Department of Natural Resources (MDNR) has expressed a willingness to take the enforcement lead in this case. The basis for this referral and the MDNR action is Litton's failure to comply with the requirements of 40 CFR Part 265, Subpart F, concerning groundwater monitoring, and 40 CFR 122.23 concerning Litton's failure to justify an increase in the capacity of their surface impoundment with EPA.

Our review of available information concerning this facility reveals that, based on sampling data obtained by the MDNR (copy of report attached), substantial contamination by volatile organics on and around the Litton facility exists.

Although AWCM has recommended that CNSL require this facility to install groundwater-monitoring wells, pursuant to 40 CFR Part 265, Subpart F, we can only require Litton to operate this system during the "active life of the facility." Since Litton proposes to close their surface impoundment by August 1, 1982, AWCM anticipates that Litton will probably only take one quarter's worth of groundwater samples, if any, from their system. We do not believe that this miniscule amount of data will allow us to determine the condition of the groundwater at this facility.

An option AWCM believes is available to further investigate this case would be the issuance of an Order, pursuant to Section 3013 of RCRA, which would force the facility to monitor and sample the groundwater in the area of their facility to ascertain the nature and extent of any groundwater contamination. AWCM believes that enough reliable information exists to justify the issuance of an Order.

We have discussed such a procedure with CNSL and the EPA Task Force, during their last visit here, and both agree that EPA should further pursue this matter and that issuance of a 3013 Order is a viable option in this case.

It is requested that WMBR review the attached data and respond to our suggestion concerning this matter.

Please contact David Doyle at 6248, if you have any questions.

Attachment

cc: Terry Satterlee - CNSL/LEGL

EPA-ARHM/HAZM

MAY 12 1982

Region VII K.C., MO

MISSOURI DEPARTMENT OF NATURAL RESOURCES
P.O. Box 1993 - 1915 South 19th Drive - Jefferson City, Missouri 65109 (211) 751-3241



File

*original
to
file 12/29/81*

July 31, 1981

Mr. William Guyette, President
Advanced Circuitry Division
Litton Industries Incorporated
P.O. box 2847
4811 W. Kearney
Springfield, MO 65803

Dear Mr. Guyette:

Enclosed is a copy of the inspection report conducted by the Missouri Department of Natural Resources on June 16, 1981. This letter will detail what is required of your company along with the deadline date for each requirement.

1. Due to the contamination found in your monitoring wells and other ground and surface water samples near your facility (see enclosed report from the MoDNR Laboratory Services Program), the Missouri DNR, under the authority given it in Section 260.380.1(9) RSMo, request all previous analysis of your monitoring wells, sanitary lagoon, and percolation lagoon (lagoon A). Litton Industries, Inc. must also develop a monitoring plan to determine, to the satisfaction of the Department, that there is no longer any hazardous waste constituents in any waste stream which enters the lagoons, and then the ground water. This monitoring plan should include the necessary waste streams, the clarifier, the sanitary lagoon, and the percolation lagoon. As part of the plan include a sketch of the portion of the plant which includes these three processes and any incoming waste streams, sampling locations and methods to obtain representative samples, sample handling procedures (type of containers, preservative, if any, storage conditions, etc.), sampling frequency or time table, analysis parameters for each sample and the registered laboratory performing the analysis, and all previous analysis as requested above. This plan with all it's parts is to be submitted to the regional office and this office by September 1, 1981.
2. Achieve the required two foot free board in the percolation lagoon (A lagoon), and the treatment tank by September 18, 1981. Inform this office and the regional office by September 1, 1981, of the steps you plan to take to achieve the two foot free board.

Christopher S. Bond - Governor
Fred A. Lafer - Director

Division of Environmental Quality
Robert J. Schreiber Jr., P.E. - Director

3. Install warning signs and develop adequate security measures to prevent the unknowing entry of persons or livestock into the percolation lagoon area (Unsatisfactory Features #3) by September 1, 1981. Inform this office and the Regional Office of the improved security at the percolation lagoon by September 1, 1981.
4. Immediately mark and label all containers of hazardous waste as described in Numbers 4 and 5 of the "Unsatisfactory Features".
5. "Unsatisfactory Features" Number 2 should be completed by September 1, 1981.
6. "Unsatisfactory Feature" Number 6 should be completed by October 9, 1981. The present closure plan lacked detail of the steps needed for, A) removal of the sludge and B) equipment decontamination. There must also be included with the closure plan a documentation to indicate your firm's financial assurance/mechanisms for the facilities surface impoundments closure. Please review the enclosed Subparts G and H of 40 CFR Part 265 from the January 12, 1981, Federal Register. Submit a copy of the revised closure plan and documentation of financial assurance to this office and the Regional Office by October 9, 1981.

Below is a summary of the compliance schedule which must be met by your company.

Immediately	-Mark and label all containers according to DOT
September 1, 1981	-Submit monitoring plan -Submit proposed steps to achieve a two foot freeboard -Improved security at percolation lagoon -Notification to MDNR of improved security -Contingency plan to appropriate authorities
September 18, 1981	-Two foot freeboard in percolation lagoon and treatment tank
October 9, 1981	-Closure plan revised and submitted to MDNR -Assurance of financial requirements

Mr. Guyette
Page 3
July 31, 1981

If there are any questions concerning the requirements of this letter, please don't hesitate to contact either Art Groner or Paul Meiburger of this office, or Burt McCullough of the Springfield Regional Office.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ed Lightfoot".

Ed Lightfoot
Deputy Director
Air and Land Branch

EL:PM/db

Enclosure

cc: David Doyle, EPA Enforcement
MODNR Water Pollution Control Program

HAZARDOUS WASTE COMPLIANCE INSPECTION REPORT

Litton Systems, Inc.
Advanced Circuitry Division
4811 West Kearney
Springfield, Missouri 65807
(417) 862-0751
MDNR #01317
EPA I.D. #MOD007152903

On June 16, 1981 Burt McCullough, Art Groner, and Lyle Crocker of the Missouri Department of Natural Resources conducted a hazardous waste compliance inspection at Litton Systems, Inc. at Springfield in Greene County, Missouri.

Litton manufactures printed circuit boards. The manufacture of these boards consists of a copper plating process. Litton generates about 274,044 kg/year of hazardous waste as follows: chrome sulfuric acid (3,474 kg/year), waste oils (5,144 kg/year), electroplating wastewater treatment sludge (365,426 kg/year). Sludges are shipped to Boh's Home Service, waste oils are shipped by Radium Petroleum Company, and acids are shipped to National Industrial Environmental Services.

UNSATISFACTORY FEATURES:

- 1). Insufficient freeboard at hazardous waste percolation lagoon. (40 CFR 265.222)
- 2). Copies of contingency plan not circulated to appropriate state and local agencies. (40 CFR 265.53)
- 3). Inadequate security at waste handling facilities. (40 CFR 265.14)
- 4). Inadequate labeling of hazardous waste. (40 CFR 262.31)
- 5). Inadequate marking of hazardous waste. (40 CFR 262.32)
- 6). Inadequate closure plan. (40 CFR Part 265 Subparts G and H)
- 7). Inadequate freeboard at waste treatment tank. (40 CFR 265.192)

COMMENTS:

IAT The percolation lagoon had 4 inches of freeboard on the date of inspection. This lagoon contains about 8 million gallons of electroplating wastewater. This lagoon is adjacent to a sinkhole. Overflow of the lagoon or failure of the dikes would result in drainage to that sinkhole. About one foot of freeboard was observed on a waste treatment tank. This tank is used to mix a flocculant with the wastewater prior to disposal in the percolation lagoon.

Although security guards are posted at the plant at all times, the fence surrounding the plant is inadequate to restrict entry. No sign with the legend "Danger - Unauthorized Personnel Keep Out" was posted at the gate.

Drums of hazardous waste at the shipping dock were not marked in accordance with D.O.T. regulations, or labeled in accordance with D.O.T. regulations. These drums also did not have the date of accumulation marked on the drum. Some of these drums, containing spent acids, were missing bungs. No type of containment was provided in the event of spillage from these drums.

The contingency plan developed pursuant to 40 CFR 265.51 adequately meets the requirements set up in the regulations. Copies of this plan, however, are not circulated to the agencies specified in the regulations.


Throughout the plant, there was a considerable amount of spillage on the floor, etc. Floor drains go to the percolation pond. Because of the diversity of materials used within the plant, it is impossible to know what types of materials are going into the percolation lagoon and ultimately ending up in the groundwater.

RECOMMENDATIONS:

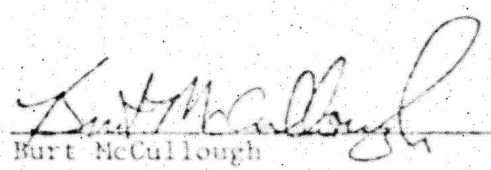
- 1). Get 2 feet of freeboard on the percolation lagoon.
- 2). Get 2 feet of freeboard on the waste treatment tank.
- 3). Label and mark all containers of hazardous waste in accordance with D.O.T. regulations.
- 4). Post warning signs at access points to the plant.
- 5). Circulate the contingency plan to applicable agencies.
- 6). Improve closure plan to incorporate deficiencies.
- 7). Develop better housekeeping practices.

APPROVED:

SUBMITTED:



John R. Nixon, P.E.
Administrator



Burt McCullough
Environmental Specialist II

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
LABORATORY SERVICES PROGRAM

Report of Investigation
Litton Advanced Circuitry Division
May 20, 1981

JUN 3 0 1981

SOLID WASTE
MANAGEMENT PROGRAM

INTRODUCTION

At the request of the Water Pollution Control Program, an investigation was conducted of the Litton Advanced Circuitry Division in Springfield, Missouri, and various sites in the vicinity during the period from 1000 to 1800, May 20, 1981. The purpose of the investigation was to determine the source of volatile organics found in earlier analyses, and the effect on local ground water. Sampling was performed by David Paulsen and Larry Alderson of the Laboratory Services Program, DEQ. Personnel involved in the inspection included Jim Dow, Production Engineer with Litton, Bob Carson and Karen Chandler, with the City of Springfield, and Burt McCullough and John Nixon of the Springfield Regional Office.

METHODS

Grab samples were collected by filling appropriate containers while maintaining a zero head space to prevent the loss of volatile organics.

At the request of Litton representatives, two (2) extra sets of samples were collected for comparative analyses. Samples were collected at each of the following locations:

Sample
Number

- 81-6227 - Fulbright Springs - included as a control.
- 81-6228 - Unnamed spring located on Stephens property feeding Clear Creek (this site was substituted for the upper end of Clear Creek at Clear Creek Park off Rt. A5 - permission to enter the property was denied).
- 81-6229 - Ritter Spring #1 West
- 81-6230 - Ritter Spring #2 East
- 81-6231 - Fantastic Caverns - cave spring
- 81-6232 - Fantastic Caverns - potable water supply
- 81-6233 - Little Sac River - at Fantastic Caverns
- 81-6234 - Litton Sanitary Lagoon

METHODS (CON'T)

Sample
Number

81-6235 - Litton "C" Lagoon
81-6236 - Litton "A" Lagoon
81-6237 - Litton Monitoring Well - West
81-6238 - Litton Monitoring Well - East

Procedures used in the analyses were performed in accordance with those outlined in EPA Method Number 624. This method uses a purge and trap device in conjunction with a Gas Chromatograph/Mass Spectrometer.

OBSERVATIONS

Starting with Fulbright Springs, to be used mainly as a background sample, the investigation moved to Clear Creek Park off Route 2E. The owner of the park insisted that no samples were to be collected on his property, so a small nameless spring on the Stephens property neighboring the park was substituted.

The Ritter Springs #1 West and #2 East, were visited next. Ritter Spring #1 West was particularly noted as having a much higher flow and was more turbid than was observed on a prior visit of February 25, 1981.

With the help of Russell Campbell, employee of Fantastic Caverns, samples were collected from a cave stream, the potable water supply, and the Little Sap River, which bordered the Fantastic Caverns property.

Litton's Sanitary Lagoon was sampled from a canoe using a Kemmerer sampler at a depth of about two (2) feet. Litton's "C" Lagoon had been pumped dry, but contained a small amount of water due to recent rains. The "A" Lagoon, which was noted to be very full, about one (1) foot from the top of the dike, was also sampled from a canoe using the Kemmerer sampler at a depth of about three (3) to four (4) feet.

The monitoring wells West and East, located just North of the "A" Lagoon, were sampled by using a small hand operated diaphragm pump supplied by Litton.

RESULTS

The results for the samples collected are attached to this report as Appendix A.

Three

Utton Advanced Credit Division

May 20, 1981


June 23, 1981

DISCUSSION

The two (2) monitoring wells were not bailed prior to sampling, therefore, some of the compounds found in those samples may have been due to leaching of the PVC casing from which the wells were constructed.

Chlorination of the potable water supply at Fantastic Caverns may also have contributed to the type of compounds found in that sample.

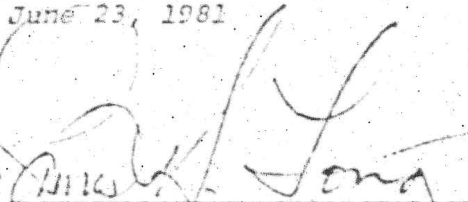
Submitted by


Larry Alderson
Environmental Specialist II

Date

June 23, 1981

Approved by


James H. Long, Director
Laboratory Services Program

cc: Richard Rankin, Director of Staff, Water Pollution Control Program
Art Groer, Environmental Specialist IV, Solid Waste Management Program
Lurt McCullough, Environmental Specialist II, Springfield Regional Office
Robert Schreier, Director, Division of Environmental Quality

/ds

RESULTS

	Fulbright Springs	Stephens Spring	Ritter Spring 1-West	Ritter Spring 2-East	Fantastic Caverns Cave	Fantastic Caverns Potable	Little Sac River	Litton Sanitary Lagoon	Litton C Lagoon	Litton A Lagoon	Litton Monitoring Well West	Litton Monitoring Well East
COMPOUND NAME	81-6827	81-6228	81-6229	81-6230	81-6231	81-6232	81-6233	81-6234	81-6235	81-6236	81-6237	81-6238
Trichloroethylene (ug/l)	*	*	*	200	7.0	4.9	20.8	233	*	*	106	30
1,2 Dichloropropane (ug/l)	*	*	*	11.4	*	*	*	*	4.1	4.3	119	105
1,1,1-Trichloroethane (ug/l)	*	*	*	12.6	*	*	3.7	*	*	3.2	67.9	47.2
Trans-1,2-Dichloroethylene (ug/l)	*	*	*	27.8	*	*	*	27.5	*	*	260	256
Chloroform (ug/l)	*	*	*	*	*	*	*	*	*	4.2	*	*
Bromodichloromethane (ug/l)	*	*	*	*	*	4.4	*	*	*	*	*	*
Dibromochloromethane (ug/l)	*	*	*	*	*	7.1	*	*	*	*	*	*
Vinyl Chloride	*	*	*	*	*	*	*	*	*	*	59.4	58.3
1,1-Dichloroethylene (ug/l)	*	*	*	*	*	*	*	*	*	*	14.3	12.5
1,1-Dichloroethane (ug/l)	*	*	*	*	*	*	*	*	*	*	112	132
Additional peaks found in some samples were identified using the NBS Library. A gross estimate of concentration was made.												
dibromomethane (ug/l)	*	*	*	*	*	*	*	*	*	*	*	*
1-butene (ug/l)	*	*	*	*	*	*	*	*	*	15	*	*
thiobismethane (ug/l)	*	*	*	*	*	*	*	*	*	45	*	*
2-propanone (ug/l)	*	*	*	*	*	*	*	*	*	75	*	*
carbon disulfide (ug/l)	*	*	*	*	*	*	*	*	*	35	*	*
tetrahydrofuran (ug/l)	*	*	*	*	*	*	*	*	*	16	*	*
1-butanol (ug/l)	*	*	*	*	*	*	*	*	*	300	*	*

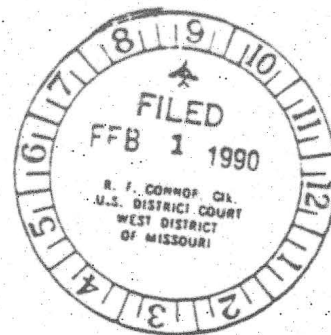
*The compound was not found or it was less than 3.0 ug/l.

Litton Systems Inc.
MO0007152903
10.6

2-1-90

47
Dawel C.

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF MISSOURI
SOUTHERN DIVISION



UNITED STATES OF AMERICA,
Plaintiff,

v.

CIVIL ACTION NO.

CITY OF SPRINGFIELD, MISSOURI,
and
LITTON INDUSTRIES, INC.,
Defendants,

CONSENT DECREE

89-34
Ron - I disagree w/ Porter's reading of the decree. We are unable to perform additional work, if necessary. The certification preserves our authority here. The certification & releases are not discussed on PP57 & 52. DUC

REC'D

FEB 05 1990

EPA CNSL/CERCLA
REGION VII

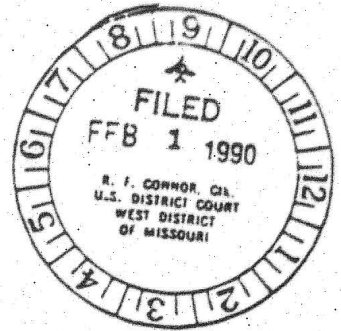
COPY

Litton Systems Inc
MO0007152903
10.6

✓
Davel C.

2-1-90

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF MISSOURI
SOUTHERN DIVISION



UNITED STATES OF AMERICA,
Plaintiff,

v.

CIVIL ACTION NO.

CITY OF SPRINGFIELD, MISSOURI,
and
LITTON INDUSTRIES, INC.,
Defendants,

89-34 Porter's reading
I disagree w/ Porter's reading
of the statute re an ability to perform
add'l work, if necessary. P-28
Preserve our authority here. The certifications
& releases are not discussed on
PP 57 & 52.
JLC

CONSENT DECREE

REC'D

FEB 05 1990

EPA CNS/CERCLA
REGION VII

COPY

C. As to Settler City:

Samuel I. Gutter, Esquire
Sidley & Austin
1722 Eye Street, N.W.
Washington, D.C. 20006

D. As to Settler Litton:

Theodore F. Craver, Esquire
Staff Vice-President and Director
of Trade Regulations
Litton Industries, Inc.
490 L'Enfant Plaza East, S.W.
Suite 8206
Washington, D.C. 20024-2179

XXII. ENDANGERMENT AND FUTURE RESPONSE

1. In the event of any action or occurrence during the performance of the Work required under this Consent Decree which causes or threatens a release of a hazardous substance, pollutant or contaminant, or which may present an imminent and substantial endangerment to public health or welfare or the environment, Settlers shall immediately notify the EPA and shall take all appropriate action to prevent, abate or minimize such release or endangerment. Such action shall be in accordance with all applicable provisions of the Worker Health and Safety Plan as part of the Post-Closure Monitoring Procedures.

2. Subject to Section XVIII., Covenant Not To Sue, nothing in this Consent Decree shall be deemed to limit the power and authority of the United States or this Court to take, direct or order any appropriate action to protect human health and the

environment or to prevent, abate or minimize any imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of hazardous substances at or from either Site.

XXIII. ADMISSIBILITY OF DATA

No Party shall have the right to object to the admissibility of analytical data that it gathers and generates on the grounds of hearsay or on the grounds of its own failure to maintain chain of custody. No Party shall have the right to object to the admissibility of analytical data sought to be introduced by another Party if the appropriate procedures, delineated in Section VII. were followed with respect to such data.

XXIV. INDEMNIFICATION AND INSURANCE

1. The Settlers shall indemnify and hold harmless the United States, its agents, employees, contractors and representatives from all claims or causes of action arising from or on account of negligent acts or omissions or willful misconduct of Settlers, their officers, employees, agents, contractors, subcontractors and any persons acting on its behalf or under its control, in carrying out activities pursuant to this Decree. The United States shall be responsible for the acts or omissions of its own employees and agents, consistent with the Federal Torts Claims Act and any other applicable law. The

Settlers reserve the right to defend such action, based on Settlers' liability for matters not addressed by the Remedial Actions, as specifically excluded from Section XVIII., Covenant Not To Sue, herein.

XXVII. OTHER CLAIMS

Nothing in this Consent Decree shall constitute or be construed as a covenant not to sue with respect to, or a release from, any claim, cause of action, or demand in law or equity against any person, firm, partnership or corporation not a signatory to this Decree.

XXVIII. PREAUTHORIZATION

Nothing in this Consent Decree shall be considered to be a preauthorization of a CERCLA claim within the meaning of Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2), and 40 C.F.R. § 300.25(d).

XXIX. MODIFICATION

Except as provided for herein, there shall be no modification of this Consent Decree without written notice to and approval of all Parties to this Decree and entry by the Court.

XXX. CERTIFICATION AND SATISFACTION

1. The Remedial Actions specified in Sections V.3.A. and C. and Sections II. and V. of the SOW to this Consent Decree

shall be deemed satisfied upon Settlers' receipt of a written Certification of Completion for Short-term Remedial Actions from EPA acknowledging that the Settlers have demonstrated, to the satisfaction of EPA, that the subject Remedial Actions have been completed. EPA shall not in an arbitrary or capricious manner withhold such Certification.

2. Section V.3.B. of this Decree and Section III. and IV. of the SOW require monitoring for a period of time that is presently indeterminable. Absent new or different factual data, new scientific information or other factors that affect the conclusions reached in the ROD with respect to the endangerment to public health or welfare or the environment, EPA shall provide Settlers with a Certification of Completion for Long-term Remedial Actions addressing such monitoring activities. Such Certification shall be provided at such time in the future that EPA deems appropriate, considering all relevant factors that exist at such time. EPA shall not in an arbitrary or capricious manner withhold such Certification. Upon the issuance of this Certification, all provisions of this Decree shall be deemed satisfied and this Decree may thereafter be terminated.

XXXI. EPA PERIODIC REVIEW

1. Because the Remedial Actions selected in the ROD, and implemented by Settlers pursuant to this Consent Decree, result in hazardous substances, pollutants or contaminants